

## MAN MAKES HIMSELF (CHAPTER IX EXCERPTED)

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"THE RISE OF CIVILIZATION: AN AUTHORITATIVE AND INSPIRING HISTORY ... INCLUDING THE NINETEEN MAJOR CONTRIBUTIONS THROUGH WHICH MEN HAVE ACHIEVED MASTERY OF THEIR ENVIRONMENT" (PUBLISHER'S NOTE)

*(WHILE NOT A DECLARED MARXIST, THE AUTHOR EMPLOYS THE MARXIST METHOD OF EVALUATION IN THIS SURVEY OF HUMAN DEVELOPMENT -- THAT OF HISTORICAL MATERIALISM. FOR A FULL DESCRIPTION OF THIS METHODOLOGY, SEE GEORGE NOVACK: THE ORIGINS OF MATERIALISM [1965]; HUMANISM & SOCIETY [1973- "THE LABOR THEORY OF HUMAN ORIGINS; PROGRESS: REALITY OR ILLUSION?"] -- WEB ED.)*

*(ALL EMPHASES IN THE TEXT ARE BY THE WEB ED.)*

### CHAPTER IX

#### THE ACCELERATION AND RETARDATION OF PROGRESS

BEFORE the urban revolution comparatively poor and illiterate communities had made an impressive series of contributions to man's progress. The two millennia immediately preceding 3000 B.C. had witnessed discoveries in applied science that directly or indirectly affected the prosperity of millions of men and demonstrably furthered the biological welfare of our species by facilitating its multiplication. We have mentioned the following applications of science: artificial irrigation using canals and ditches; the plow; the harnessing of animal motive-power; the sailboat; wheeled vehicles; orchard-husbandry; fermentation; the production and use of copper; bricks; the arch; glazing; the seal; and — in the earliest stages of the revolution — a solar calendar, writing, numeral notation, and bronze.

The two thousand years after the revolution — say from 2600 to 600 B.C. -- produced few contributions of anything like comparable importance to human progress. Perhaps only four achievements deserve to be put in the same category as the fifteen just enumerated. They are: the "decimal notation" of Babylonia (about 2000 B.C.); an economical method for smelting iron on an industrial scale (1400 B.C.); a truly alphabetic script (1300 B.C.); aqueducts for supplying water to cities (700 B.C.).

The "decimal notation" enabled the Babylonians to deal effectively with fractional quantities and to establish a mathematical astronomy. But place value died with their script though sexagesimal fractions survived to inspire "decimals" in A.D. 1590. Economical iron-smelting first made metal tools so cheap that they could be universally used for clearing forests and draining marshes. In temperate latitudes the new tools opened up to agriculture vast tracts of land hitherto uninhabitable, and so made possible a great expansion in population. Yet the crucial discovery was not due to the rich and long-civilized communities of Babylonia or Egypt, but to a hitherto unknown community, dependent upon the Hittite Empire.

The alphabet brought reading and writing within the reach of all and made literature potentially popular. Yet again this revolutionary simplification of writing was not carried through in the old centers of learning, but in the relatively young commercial cities of Phoenicia. Aqueducts, bringing supplies of fresh water, must have reduced the mortality among city-dwellers, and so added to the total of humanity. The earliest example yet discovered was built by Sennacherib, King of Assyria, to supply his capital.

Two of our four discoveries, therefore, cannot be credited to the societies that had initiated and first reaped the fruits of the urban revolution. Technical improvements like the addition of a fixed rudder to ships or the glazing of pottery may be neglected here, as being merely logical developments of processes initiated before the revolution. For the same reason we may ignore some medical, astronomical, and chemical discoveries made in the Orient that, purified from the dross of magic surrounding them, were incorporated in Greek science.

We are then left with only two first-rate discoveries made by societies equipped with all the advantages of the fifteen mutations that were unified in the urban revolution. Viewed in this light the achievements of Egypt, Babylonia, and their immediate cultural dependencies appear disappointing from the standpoint of human progress. **Contrasting progress before and after it, the second revolution seems to mark, not the dawn of a new era of accelerated advance, but the culmination and arrest of an earlier period of growth.** Yet the Oriental societies had been equipped by the revolution with unprecedented resources and a new faculty of transmitting and accumulating knowledge.

**One partial explanation for such arrested growth may be detected in internal contradictions evoked within the societies by the revolution itself. The latter was made possible, it will be recalled, not only by an absolute accumulation of real wealth, but also by its concentration in the hands of gods or kings and a small class dependent on these.** Such concentration was probably essential to ensure the production of the requisite surplus resources and to make these available for effective social use.

None the less it meant in practice the economic degradation of the mass of the population. The lot of the primary producers—farmers, herdsmen, fishers—may, indeed, have been ameliorated by the public works, promoted by the State, and by the security regular Government guaranteed. Yet materially their share in the new wealth was minimal, and socially they were sinking toward the status of tenants or even serfs. The new army of specialized craftsmen and laborers could certainly have found no livelihood but for the expenditure of the surplus created by the revolution. But the fraction which came to them was again trifling. An unknown percentage of the new craftsmen were actually slaves working for a bare living wage; the rest, though legally free, must have been improverished by the competition of servile labor, and were ultimately reduced to the straits described by the Egyptian father quoted on p. 149 (*"Put writing in your heart that you may protect yourself from hard labor of any kind..." etc., Chapt. 8, 1951 New American ed.*)

The substantial balance of the new surplus was retained by the few—the kings, the priests, their relatives, and favorites. Society is divided into economic classes. A "ruling class" of kings, priests, and officials is contrasted to the "lower classes" of peasants and manual laborers. The division is typified for the archaeologist by the contrast between the overpowering magnificence of royal tombs and the simplicity of private graves in Egypt or by that between the luxurious houses of merchants and the hovels of artisans in an Indus city. As compared to these the graves in a pre-dynastic cemetery or the huts in a neolithic village reveal equality, albeit equality in squalor.

Now by the biological standard here adopted the urban revolution is amply justified in its effects, even if those effects include the class division just outlined. That does not mean that such a class division was itself likely to accelerate further progress. On the contrary, it should retard it. **Progress before the revolution had consisted in**

**improvements in productive processes made presumably by the actual producers, and made moreover in the teeth of superstitions that discouraged all innovations as dangerous.**

**But by the revolution the actual producers, formerly so fertile in invention, were reduced to the position of "lower classes." The ruling classes who now emerged owed their power largely to the exploitation of just those hampering superstitions. The Egyptian pharaoh may have started as a magician; in any case, he did claim to be a god and spent much of his time performing magic rites. The first beneficiaries of the revolution in Sumer were the temple priests; the king, when he emerges there, is closely associated with the god whom he impersonates in periodical ceremonies. It is hardly to be expected that ruling classes with such affiliations should be patrons of rational science; they were too deeply implicated in the encouragement of hopes which experience was repeatedly showing to be illusory, but which still deterred men from pursuing the harder road of sustained and intense thinking.**

**And, in fact, such rulers had few incentives to encourage invention. Many of the revolutionary steps in progress—the harnessing of animals' motive-power, the sail, metal tools—originally appeared as "labor-saving devices." But the new rulers now commanded almost unlimited reserves of labor recruited from subjects fired with superstitious faith and captives taken in war; they had no need to bother about labor-saving inventions.**

At the same time, the new middle class of scribes and learned men was firmly attached to the ruling class. They were in many instances actually "clerks in holy orders," and thus as closely identified as the rulers with the maintenance of vain superstitions. The learned professions were "respectable," and actually offered opportunities for advancement into the ruling class itself. Finally, the private interests of the "wise-men" tempted them as a class to set undue store by mere book-learning as against experiment and observation in the living world. **The new sciences for which the revolution gave scope were thus all too often fettered by subservience to superstition and divorced from the applied sciences that produced results.**

**The practical exponents of the latter were relegated to the lower classes. Escape from their position of inferiority was not offered by technical improvements that the ruling classes could hardly appreciate, but at best by joining the middle class in supporting "the established church."**

Thus, from the point of view of progress, Egyptian and Babylonian societies were involved by the urban revolution in a hopeless contradiction. And they bequeathed this contradiction to the various successor states — Hittites, Assyrians, Persians, Macedonians—that took them as models. **The creative work of the Greeks in applied and theoretical science begins long before the "golden age," when a nominal democracy had become rather a privileged minority, living largely on the labor of aliens and slaves and the tribute of subject states. It was when the Greeks were just emerging from the dark age after the fall of Minoan-Mycenaean civilization that the scientific traditions of the Orient were transformed by a new spirit. At this time in cities already reorganized for trade and industry, the wealth from these pursuits balanced that of landed aristocracies but was not yet unduly concentrated, while a simple alphabetic script made learning accessible to a wide public.**

In addition to the internal contradiction just explained, the ancient Oriental civilizations were involved in an external contradiction of a similar nature. As we have

seen, neither the Nile Valley nor Babylonia was self-sufficing. Even when united in a single political and economic system, each country was forced to rely for essential raw materials on imports from regions occupied by different societies. The necessary imports had presumably once been obtained by a free exchange of surplus products. But reasons have been given for the belief that the supplies thus obtained did not suffice to meet the demands of Egyptians and Sumerians, enriched by the urban revolution.

**They accordingly attempted to expedite and regularize deliveries by force; armies followed the routes opened up by merchant caravans. Eventually attempts were made to annex the sources of supplies and to conquer the exporting countries. As the rulers of Sumerian cities had aimed at giving a political form to the geographical unity of Babylonia by subjugating neighboring cities, so they sought to extend their domains by annexing geographically distinct regions essential to the stability of their economy. They came thus to embark upon a course of imperialist conquest. The Empire founded by Sargon of Agade about 2500 B.C. is the first recorded realization of this endeavor.**

It is not, of course, asserted that the conqueror was consciously inspired by deliberate economic calculations. But his conquests did, in fact, tend to the results here indicated. And Sargon's empire, although transitory, became the model for all Oriental imperialisms. Throughout the Ancient East, Sargon's conquests became an ideal and the conqueror himself a hero of romance. A thousand years after the disintegration of his empire, literary panegyrics on his prowess were circulating throughout the Ancient World. Fragments of such compositions have been dug up at the Egyptian capital of Tell el Amarna and at the Hittite capital of Boghaz Keui. Sargon set a standard which his immediate successors, the kings of Ur and then of Babylon, after 1600 B.C. the Egyptians, the Hittites, the Assyrians, the Lydians, the Medes, the Persians, and the Macedonians were fain to imitate.

Now these successive but short-lived empires undoubtedly contributed to human progress. While they lasted, they guaranteed over wide areas internal peace and security favorable to the accumulation of wealth. They ensured for the great industrial centers adequate supplies of raw materials. They spread abroad the economic advantages of the urban revolution and the advances in applied science that accompanied it. The ways of communication essential to the maintenance of an empire were channels for diffusion. It was along them that learned men traveled in the fifteenth and fourteenth centuries B.C. and that Greek physicians and geographers went to Babylon and Susa a thousand years later. The imperial generals themselves studied the botany and zoology of the conquered territories, and recorded their observations on returning home. Thus knowledge was accumulated and recorded.

**But the instability of these empires discloses a contradiction within them; the persistence with which the subject peoples revolted is a measure of their gratitude for the benefits just recited, and perhaps of the latter's value too. Presumably the benefits were more than outweighed by disabilities. In reality an empire of the Sargon type probably did directly destroy more wealth than it indirectly created.**

**The first boast of an Oriental conqueror in his inscriptions is the booty in animals, metal, jewels, and slaves that he has brought home. Such plunder did not increase the total wealth available for human enjoyment. At best it effected a redistribution of existing resources and released hoarded treasures. But mostly it meant transferring wealth from poorer societies to courts already gluttoned with a**

**superfluity. Thereafter the victor's main concern was to exact a regular tribute from the vanquished peoples.**

**In a general way the empires thus established were mere tribute-collecting machines. Normally the imperial government interfered in the internal affairs of subject peoples only in so far as was necessary to ensure obedience and the regular payment of taxes. The monarch was concerned with the prosperity and good government of his domains only if such conditions promoted the collection of revenue. And quite certainly Oriental monarchies were created by war, maintained by continual war, and eventually destroyed by war.**

Now warfare has undoubtedly served as a potent incentive to new discoveries that could be applied also to peaceful ends; we saw in the last chapter how its exigencies stimulated the ingenuity even of mathematicians. Admittedly, too, militarism was necessary both to protect the achievements of civilization against the envious attacks of slothful (*backward? --ed.*) barbarians and to spread the blessings of civilization itself. But it did not even succeed in either direction.

Despite all their standing armies and military equipment, the Sumerian and Akkadian states were impotent to repel the assaults of less prosperous and less civilized peoples. Sargon's Empire fell before invaders from Gutium, and thereafter the land was overrun in turn by Elamites, Amorites, Hittites, Kassites, Assyrians, Medes, Persians, and Macedonians.

The punitive expeditions and elaborate frontier defenses of the Old and Middle Kingdoms could not permanently protect the Nile Valley from invasion. The New Empire was founded better to defend the frontiers by advancing them. It was overthrown by the onslaughts of Philistines, Libyans, and other barbarians who had been trained in "civilized warfare" as mercenaries in the imperial armies. And thereafter the Nile Valley itself was occupied by Libyans, Nubians, Assyrians, Persians, and Macedonians. Such was the security obtained by ever-increasing expenditure on armaments and application of the maxim "the best defense is attack"!

**As a civilizing force militarism's record is equally disappointing. Resistance to imperialist aggression did, as explained on p. 140 (*end Chapter 7 --Ed.*), induce barbarians to adopt some arts of civilization, notably metallurgy. But in most cases they adopted only so much of the higher culture as was needed for military equipment. And that equipment was promptly turned against the imperialist apostles of civilization. The ultimate results of the "civilizing missions" undertaken by Sargon and his imitators were successful raids by barbarians on the centers of civilization; a few of these were mentioned above. And each raid and invasion destroyed men, squandered wealth, and at least temporarily put back the clock of progress.**

The apparent arrest of growth, already alluded to, may be partly due to these circumstances. The period after the urban revolution is certainly one in which organized warfare is repeatedly attested both by written records and by the prominent place henceforth assumed by armaments in the archaeological record. **Before the revolution unmistakable weapons of war were, as explained on p. 108, far from conspicuous. Yet it was just then that progress was proceeding most rapidly. Had organized warfare been such an essential spur to progress, a reversal of the above relations would have been expected.**

**And biologically the slaughter of increasing numbers of members of the human species cannot well have promoted the multiplication of that species. Yet that has been our final test of progress.**

Almost from the outset of his career, it would seem, man used his distinctively human faculties not only to make substantial tools for use upon the real world, but also to imagine supernatural forces that he could employ upon it. He was, that is, simultaneously trying to understand, and so utilize, natural processes and peopling the real world with imaginary beings, conceived in his own image, that he hoped to coerce or cajole. He was building up science and superstition side by side.

The superstitions man devised and the fictitious entities he imagined were presumably necessary to make him feel at home in his environment and to make life bearable. Nevertheless the pursuit of the vain hopes and illusory short cuts suggested by magic and religion repeatedly deterred man from the harder road to the control of Nature by understanding. Magic seemed easier than science, just as torture is less trouble than the collection of evidence.

**Magic and religion constituted the scaffolding needed to support the rising structure of social organization and of science. Unhappily the scaffolding repeatedly cramped the execution of the design and impeded the progress of the permanent building. It even served to support a sham facade behind which the substantial structure was threatened with decay. The urban revolution, made possible by science, was exploited by superstition. The principal beneficiaries from the achievements of farmers and artisans were priests and kings. Magic rather than science was thereby enthroned and invested with the authority of temporal power.**

It is as futile to deplore the superstitions of the past as it is to complain of the unsightly scaffolding essential to the erection of a lovely building. It is childish to ask why man did not progress straight from the squalor of a "pre-class" society to the glories of a classless paradise, nowhere fully realized as yet. **Perhaps the conflicts and contradictions, above revealed, themselves constitute the dialectics of progress. In any case, they are facts of history. If we dislike them, that does not mean that progress is a delusion, but merely that we have understood neither the facts nor progress nor man.** Man made the superstitions and the institutions of oppression as much as he made the sciences and the instruments of production. In both alike he was expressing himself, finding himself, making himself.

The word "race," the reader will note, has hardly been mentioned in this book. In particular, in an attempt to explain, even briefly, the rise of agriculture, the foundation of States, or the growth of sciences, it was found unnecessary to invoke peculiar psychological endowments, inherited along with bodily characteristics by the human groups active in those directions. A popular theory attributes an innate "capacity for leadership" to a hypothetical "Nordic race." It would have been easy to "explain" in this way the progress of mathematics in Babylonia as due to a "mathematical talent" inborn in Sumerians or Semites. ("The Egyptians' genius for . . ." is all too often mentioned in quite serious works.) But such a procedure would not have been scientific explanation. In practice it is only a restatement in pompous language of the fact that some Sumerians were actually good accountants. At best it might mean that some inexplicable and undemonstrable mutation in the germ plasm ("*genes*"; *DNA was not yet discovered -- ed.*) of hypothetical ancestors, transmitted to the Sumerians, produced a brain and nervous system that facilitated the processes of reckoning.

High-sounding terms that give confusion the semblance of logic and undemonstrable postulates have alike been avoided here. We have instead tried to show how certain societies in the process of adjusting themselves to their environments were led to create States and mathematical sciences by applying distinctively human faculties, common to all men. Under certain conditions, a State and mathematics were necessary to enable men to live, prosper, and multiply. No change in germ plasm, introduced by unknown non-human agencies, had to be assumed.

At the same time, the achievements we have sought to explain were not automatic responses to an environment, not adjustments imposed indiscriminately on all societies by forces outside them. All the adjustments we have considered in detail were made by specific societies, each with its own distinctive history. In the course of its history, the society had built up traditional rules of behavior and a stock of craft lore or practical sciences. It was the application of these rules and sciences to the particular environment that determined the form of the adjustment under examination.

The differences between Egyptian and Sumerian political organizations and mathematical techniques are explicable by the divergent histories of the two societies, not simply by the contrast between the Nile Valley and the Tigris-Euphrates plain, still less by hereditary disparities in nervous mechanisms.

**Now it is the social traditions, shaped by the community's history, that determine the general behavior of the society's members.** The differences in behavior exhibited by members of two societies, viewed collectively, are due to the divergent histories of the two societies. But it is just this average behavior that a science of racial psychology might study; only by a perversion from its scientific aims could it deduce therefrom "innate faculties."

**Actually, we have seen (p. 117 ff. --Chapter 7, "The urban revolution") that this behavior is not innate. It is not even immutably fixed by the environment. It is conditioned by social tradition.** But just because tradition is created by societies of men and transmitted in distinctively human and rational ways, it is not fixed and immutable: it is constantly changing as society deals with ever new circumstances. Tradition makes the man, by circumscribing his behavior within certain bounds; but it is equally true that man makes the traditions. And so, we can repeat with deeper insight, "Man makes himself."